

### **Abstract of the Disclosure**

An anaerobic digester and a method for treating organic waste and recovering a usable quality methane gas. A first cover of gas permeable material conducive to bacterial colonization covers the surface of a slurry of organic waste material in a containment vessel. The permeable cover acts as a media to support and encourage the growth of methanogenic bacteria. Gas collection apparatus is installed on the first cover. A second cover of gas impermeable material is installed over the gas collection apparatus. A gas collection space is formed between the two covers. Edges of the first and second covers are closed to inhibit the escape of gas from the gas collection space. Biogas produced as a result of anaerobic digestion activity permeates the gas permeable cover and enters the collection space. From the collection space the gas is drawn into the gas collection apparatus which can, for example, be comprised of a network of perforated ducts connected to a blower that draws gas out of the ducts for delivery to a storage or usage location.